TERMS OF REFERENCE (TOR)

CONSULTANCY SERVICES FOR STRUCTURAL FEASIBILITY, ENERGY AUDIT, DESIGN REVIEW, and CONSTRUCTION SUPERVISION OF THE SURGERY HOSPITAL IN ÇAPA CAMPUS OF ISTANBUL UNIVERSITY FACULTY OF MEDICINE

TÜRKİYE SEISMIC RESILIENCE AND ENERGY EFFIOCIENCY IN PUBLIC BUILDINGS PROJECT (SREEPB)

(Ref : WB/CS-DESSUP-04)

This assignment comprises of two phases as:

PHASE 1: CONSULTANCY SERVICES FOR STRUCTURAL FEASIBILITY, ENERGY AUDIT AND DESIGN REVIEW OF THE SURGERY HOSPITAL IN ÇAPA CAMPUS OF ISTANBUL UNIVERSITY FACULTY OF MEDICINE (Lump Sum)

PHASE 2: CONSULTANCY SERVICES FOR CONSTRUCTION SUPERVISION OF THE SURGERY HOSPITAL IN ÇAPA CAMPUS OF ISTANBUL UNIVERSITY FACULTY OF MEDICINE (Time Based)

I. Introduction and Background

Exposure and vulnerability to natural hazards, including earthquakes, landslides, and floods also threaten sustainable development in Türkiye. Among these disasters, earthquakes have claimed the highest number of lives and caused the greatest economic loss, with 76 earthquakes since 1900 resulting in approximately 90,000 fatalities, a total affected population of 7 million, and direct losses exceeding US$25 billion[1] . About half the casualties were due to two earthquakes on the North Anatolian Fault in 1939 and 1999. In the 1999 Marmara earthquakes, which affected 10 cities[2] in the Marmara Region of Türkiye where almost 35 percent of the Türkiye's GNP was produced, the death toll was over 18,000 with a direct economic impact estimated at US$5 billion (2.5 percent of GNP). Although less catastrophic, floods and landslides are frequent events in Türkiye and result in localized losses. Observed and anticipated climate change impacts, such as more intense precipitation, extreme heat and rising sea level, are expected to lead to increased risks to natural disasters, including more frequent and intense flooding in low-lying areas of river deltas and coastal cities and other extreme weather events, such as storms, hail, and tornados.[3]

Moreover, energy efficiency is critical for Türkiye to sustain its economic growth while meeting its commitments for climate change and environmental sustainability. Türkiye's energy intensity (that is its energy use per unit of GDP, or 158.4 kgoe/€1,000 of GDP in 2018) was about 35 percent

[1] Erdik, M. (2013), Earthquake Risk in Türkiye, Science Mag, Vol. 341, Issue 6147, pp. 724-725, DOI: 10.1126/science.1238945

[2] Kocaeli, Sakarya, Yalova, Istanbul, Bursa, Bolu, Eskisehir, Duzce, Karabuk, and Zonguldak

[3] Republic of Türkiye Ministry of Environment and Urbanization (2018), Seventh National Communicaton of Türkiye under the UNFCCC.

higher than that of the EU-28 countries (117.9) but compares favorably with many of its neighboring countries in Eastern Europe and the Balkans (~300-500). However, as energy use per capita in Türkiye rises (from 1.31 toe per capita compared with 2.2 in the EU and 4.2 in OECD countries), its energy intensity is expected to grow[4]. This high intensity negatively impacts energy security—Türkiye's energy imports have increased in recent years, from US$37.2 billion in 2017 to about US$43.0 billion in 2018, and it accounts for almost 19 percent of the country's total imports. It also has a negative impact on the environment, with the energy sector accounting for 72.2 percent of the country's greenhouse gas (GHG) emissions in 2017.

Therefore, it is essential to promote a strategic national approach to increase energy efficiency and seismic performance in public buildings through an integrated approach that would improve the vast building stock in Türkiye. In this respect, Government of Türkiye signed a loan agreement in the amount of USD 265 million for the Seismic Resilience and Energy Efficiency in Public Buildings Project (SREEPBP) that will be implemented by the Ministry of Environment, Urbanization and Climate Change (MoEUCC), hereinafter referred to as the "Consultant".

The General Directorate of Construction Affairs (GDCA) under the MoEUCC has been delegated to assume overall responsibility for the project. This will include the completion of the necessary activities to support project preparation as well as implementation for the six-year project period. In parallel, grant funding has been mobilized from The Global Facility for Disaster Reduction and Recovery (GFDRR) to explore innovative approaches for structural strengthening and EE activities.

The GDCA has established a project implementation unit (PIU) to administer all aspects of the project, including raising awareness about the Project, identification of the vulnerable buildings within the agreed eligibility and prioritization, procurement of the various contractors and Project monitoring and reporting.

II. **Project Objectives**

The project investments will focus primarily to improve the disaster resilience and energy savings in selected central government buildings, and to strengthening the policy framework and institutional capacity to develop, finance and implement resilient and sustainable public buildings in Türkiye. The proposed project would be implemented through three components: (i) investments in Central Government Buildings for seismic strengthening and energy efficiency (EE) improvement; (ii) advanced technical assistance (TA) and capacity building; and (iii) project implementation support.

Through the Project, public buildings such as education buildings (pre-primary and tertiary)[5], dormitories, hospitals, and public administrative buildings[6] will be structurally strengthened and renovated or demolished and reconstructed. The Project will seek to ensure minimum energy

[4] Eurostat. https://ec.europa.eu/eurostat/web/main/home

[5] Through a parallel Project – Disaster Risk Management in Schools (P157683), the Bank is supporting disaster resilience and energy efficiency interventions in primary and secondary schools under the Ministry of National Education.

performance of the renovated buildings[6] (i.e., Turkish Class C energy performance certificates or higher) and a minimum energy savings which will be specified and agreed upon in the Project Operations Manual. Architectural, mechanical, electrical improvements and some renewable energy (RE) systems (e.g., rooftop solar photovoltaic (PV), ground source heat pumps, solar water heaters, generators) will also be included, subject to their economic viability. For buildings where, demolition and reconstruction are necessary, all the new building financed by the Project will be disaster and climate resilient and classified Class B or higher, and potentially near-zero energy buildings (NZEB). The renovated buildings will also comply with all relevant national regulations and laws regarding shelter, fire, workplace safety, accessibility for persons with disabilities, and similar requirements, in addition to meeting all standards for the materials used.

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III. Scope of Services

The concept design and detailed drawings of the projects for the 128 beds Surgery hospital in Çapa Campus of Istanbul University Faculty of Medicine, were obtained by Istanbul University, hereinafter referred to as the "Beneficiary" and the visuals of the New Hospital Building with a construction area of approximately 21,350 m2 and 3 Basement + Subfloor + Ground + 3 Normal floors are shown in Figure 1 & Annex 1.

Within the framework of the of the Project, a consulting firm, hereinafter referred to as the "Consultant", will be employed to carry out the following tasks:

- Review architectural, structural, geotechnical, infrastructure, electrical, and mechanical projects, and the technical calculations related to the structural performance of the building, including checking their compliance with existing legislation and technical requirements;
- Review the design phase Energy Audit Report and determine the energy performance class (EPC) of the building;
- Review technical specifications, bill of quantities (BOQ) and associated cost estimates;
- Prepare measurement and verification plan & commissioning plan;
- Prepare Environmental and Social Management Plans (ESMPs) and Occupational Health and Safety (OHS) Plan within the scope of the project's Environmental and Social Management Framework;
- Prepare the Tender Documents based on an agreed, recent World Bank Standard Template.

[6] This Project will not include any government buildings associated with law enforcement, justice, or the military (i.e. police buildings, courthouses etc.) and dormitories for police, gendarme, or military personnel)

IV. **Description of the Consultant's Tasks**

Task 1: ***Inception Report***

The consultant shall submit an inception report no later than two weeks after contract signing. The report shall:

i. review the energy audit and further define the aims and objectives of the services to be provided;
ii. summary of the main seismic performance requirements and reference standards to be used
iii. set out a detailed work plan, methodology/strategy to be adopted with clear timelines and targets, for the rest of the project services to be provided, including a time plan for site visits, measurements and preparation of Environmental and Social (E&S) documents;

;

iv. identify potential problems to be overcome and possible solutions;
v. justification of the feasibility of the technical solutions;
vi. identify counterpart staff in the Client's office and other organizations; and
vii. include a stakeholder analysis identifying other third-party organizations involved in the project implementation process.

A professional project management software shall be used for the preparation of the detailed work plan, as agreed with the Client.

Deliverables:

-Inception Report

Task 2: Review of energy audits and detailed designs

2.a. ***Review and advice on design phase energy audit reports and determine the EPC class***

According to the Operation Manual of the Project, all the reconstructions realized within the scope of the Project shall be NZEB with Class B or higher energy performance. It's expected that the Çapa Campus of Istanbul University Faculty of Medicine will be reconstructed to achieve NZEB and classified as Class A.

Under a separate consultancy, a consulting firm prepared the design phase energy audits. For this assignment, the consultant will review the audit to ensure their accuracy and high-quality including review if all appropriate energy efficiency (EE) and renewable energy (RE) measures have been considered, if analyzed and recommended measures are appropriate, if the structures and construction materials for the new building design and EE are appropriately chosen and designed with the assessment of cost-benefit analysis, etc., taking into account the climate region of the building and based on the technical drawings, specifications, and the standards and regulations in force in Türkiye. As part of the review, the Consultant shall evaluate and suggest additional or adjustment of EE and RE measures to improve the building's energy performance, such as envelope with lower u-values, more efficient heating, ventilation, and air conditioning (HVAC) systems, electrification of heating using heat pumps (full electrification or partial electrification through heat pumps with complementary or back-up gas boilers), more efficient lighting, or additional solar PV. –The work conducted should comply with the principles and processes described in ISO 50002.

Based on the agreed EE and RE measures, the Consultant shall prepare a Preliminary Calculation Result Report (Ön Hesap Sonuç Raporu) for the building to determine the EPC, using the most recent version of the national EPC software, BEP-TR2.

Based on the review of the results of this audit, the Consultant shall coordinate the adaptation of the necessary adjustments and modifications to the design of building to be made by the Design Consultancy Company who has a contract with the Beneficiary.

2.b. – Review the detailed technical designs (D/D):

a. *Review and concur on detailed technical designs* (including interventions for structural and energy efficiency), including but not limited to structural assessment and feasibility reports, calculations, and technical specifications that have been prepared on the seismic vulnerability, retrofitting feasibility of the hospital building, considering the cost-benefit analyses of identified structural solutions within the framework of the Turkish Earthquake Code (2018) and other relevant laws/legislations, technical norms, and standards in force in Türkiye covering non-structural elements.

The detailed designs and technical specifications/bills of quantity, cost estimation for the building to be reconstructed have been prepared by a separate licenced design consultancy company that is hired by the Beneficiary. The consultant will be asked to review and prepare verification report of these designs for the compliance with the energy audit, the technical completeness, adherence to national standards and technical norms, good practices for EE implementation. According to the evaluation and determination of the consultant, if required by PIU, negotiate with the design company on specifics to increase quality and cost effectiveness of measures and to improve the energy performances.

b. Review of bills of quantity/cost estimates. The bills of quantity and cost estimation for the hospital building will be reviewed and verified for compliance with the energy audits, technical designs, technical completeness, and adherence to national standards and norms. According to the evaluation and determination of the Consultant, if required by PIU, negotiations shall be held with the design consultant on specifics to increase the quality and effectiveness of bills of quantity/cost estimates.

The reviewed and verified audits, projects, and project reports shall be submitted for Client/PIU's concurrance after all the above-mentioned procedures are completed.

Deliverables:

2.a. Energy Audit Evaluation Report and Preliminary Calculation Result Report to determine the EPC class of the building
2.b. Technical Design Review Reports (including review and concurrence with Technical Design, as well as BOQ and cost estimate).

Task 3: Preparation of Reconstruction Environment and Social Documents and Tender Documents

The Consultant must perform all services for the preparation of the documents described below and submit them to the satisfaction of the Client. Tender documents must be prepared in accordance with the World Bank Procurement Regulations for IPF Borrowers. If any discrepancies or errors are detected during the Construction Phase, correction recommendations will be made to the drawings or other documents by the Consultant.

Task 3.1: Preparation of Site-Specific Environmental and Social Management Plan (ESMP)

• A site-specific Environmental and Social Management Plan (ESMP) included in Annex-3 of SREEPB Project Environmental and Social Management Framework (ESMF) will be prepared.
• The ESMP will outline the monitoring and mitigation measures to be taken during the implementation of the project to prevent or eliminate adverse environmental and social impacts.
• The Consultant will submit the ESMP to the PIU for finalization and integration into the construction contractor's tender documents. The project's ESMF includes an ESMP format to be used in developing the ESMP for renovation and reconstruction activities. Additionally, the contractor will update the ESMP in communication with the consultant, if necessary, before construction begins.
• The ESMP includes the legal and institutional framework, description of the project, basic environmental and social baseline data, environmental and social risks and impact assessment, relevant mitigation measures to be taken, monitoring and reporting arrangements, and roles and responsibilities of different parties involved in the project implementation.
• The ESMP will include specifications and quantity lists for the removal, packaging, transportation, temporary storage and disposal of hazardous substances, personal protective equipment, monitoring requirements (Environmental Mitigation and Monitoring Measures based on ESMF) and estimates.
• The Consultant will prepare the ESMP in English and Turkish, unless otherwise specified by the World Bank (WB) at a later stage of project implementation.
• Consultants will liaise with the PIU to finalize the ESMP and help organize Stakeholder Engagement Meetings, specifically involving stakeholders who may be affected by the construction works.
• Will ensure that the ESMP prepared specifically for the site is publicly available on the Project website (https://kamuguclendirme.csb.gov.tr) , at the construction site and in easily accessible places in the local area. Physical copies will be available to the public in offices at the construction site during construction activities. In this way, all stakeholders will have full access to the ESMP, which contains information on possible environmental and social impacts and risks and details of mitigation measures to be taken.

Task 3.2: Preparation of Site-Specific Occupational Health and Safety (OHS) Plan

- Prepare site specific Health and Safety plan in line with relevant Turkish OHS Legislative requirements , the World Bank Group (WBG) General Environment, Health and Safety (EHS) Guidelines and ESMF developed for the Project and Good International Industrial Practices (GIIPs)

- The OHS Plan shall outline the identified potential health and safety hazards for the project and, management and mitigation measures to be taken during project implementation to avoid or eliminate associated occupational health and safety risks to the workers and community. The OHS plan will also include requirements for the monitoring and reporting on the performance of the implementation of mitigation and management measures.
- The OHS Plan shall (i) describe the scope and type of project activities to be carried out, (ii) present the potential OHS hazards and associated risks of the proposed project activities, (iii) identify and describe the mitigation measures (such as log out tag out procedure, work permit system, community safety and traffic management plan etc.) to be taken during the life of the project and cost estimation for the identified mitigation measures, (iv) set out the monitoring and reporting requirements, and (v) roles and responsibilities of different parties involved in the project implementation.
- The Consultant shall submit the OHS Plan to the PIU to be finalized and integrated into construction contractor bidding documents. In addition, the consultant shall update the OHS Plan during the project implementation/construction in consultation with the construction contractors, if required
- The Consultant shall prepare the OHS Plan in both English and Turkish languages for World Bank review, until otherwise advised by the World Bank at later stage of the project implementation
- The OHS Plan will be made publicly available on the websites of the MoEUCC and the respective buildings to be renovated. The physical copies will be accessible to the public at the offices in the construction yard during the construction activities. In this manner, all stakeholders will have full access to the OHS Plan which provides information regarding the potential OHS risks, and the details of the mitigation measures to be taken. The Consultant will make sure that site specific OHS Plan are publicly available both at the construction sites and at easily accessible places within the local area
- The Consultants shall liaise with the MoEUCC in order to finalize the OHS Plan and support MoEUCC to organize disclosure and consultation process of the OHS Plan with the public (especially including the stakeholders who might be affected from the retrofitting and renovations) – please see Section 6.3. for details.
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Task 3.3: Preperation of Tender Documents

• The Consultant prepares the Tender Documents based on the latest World Bank Standard Document as agreed with the Client.

Task 3 Deliverables:

3.1 Environmental Social Management Plan (ESMP)

3.2 Occupational Health and Safety (OHS) Plan

3.2.1 Certificates showing the professional qualifications of those who will take part in field survey

3.2.2 Documents showing that the personnel who will take part in the field survey have received occupational health and safety training.

3.2.2 SGK employment declaration for all employees who will take part in the field survey.

3.3 The Tender Documents for construction of "*THE SURGERY HOSPITAL IN ÇAPA CAMPUS OF ISTANBUL UNIVERSITY FACULTY OF MEDICINE*".

Task 4. Prepare commissioning plans and Measurement and Verification (M&V) plans

4.a Commissioning plans

Commissioning is a quality-based process that focuses on verifying and documenting that the equipment and systems used during the implementation of energy efficiency measures are designed, installed, tested, and properly operated to meet the described requirements. Commissioning helps to deliver a safe and healthy project, optimizes energy use, reduces operating costs, provides adequate maintenance personnel orientation and training, and provides documentation. Commissioning is often perceived as focusing solely on testing at the end of the construction phase but commissioning is a collaborative process to plan, deliver and operate all processes so that they work as intended by the designer. Commissioning starts with project planning and includes design, construction, commissioning, acceptance and training, and warranty phase services. Commissioning process has four overarching principles that begin at project inception and continue throughout use and operation:

- Creating measurable project performance descriptors
- Planning and executing the commissioning process
- Verifying and documenting compliance with requirements
- Effectively transfer all acquired knowledge to the business team

Commissioning process requires good planning. In this context, the determination of the systems and equipment to be handled in the process and how the test and training activities to be developed will be carried out should be discussed at the planning stage. Planning is the coordination and integration of systems and equipment in the commissioning process with other construction phase activities. The detailed integration of the commissioning works with the construction program is critical to maintaining the milestones in the project program.

The Consultant shall prepare responsible commissioning plans and form commissioning teams of each project for the healthy execution of the whole process. A commissioning team is formed to oversee, implement, and perform commissioning process activities. The leadership responsibility of the commissioning team shall be determined at the beginning of the project and a task assignment shall be made. The term for the person generally responsible for the commissioning process is "Commissioning Officer" or "Commissioning Agent" or "Commissioning Agent/Authority".

The responsibilities of the commissioning team include:

a. Identify experts responsible for performing commissioning activities for specific systems and assemblies
b. Organizing a pre-construction commissioning process meeting
c. Planning the commissioning process activities and integrating them into the project construction program
d. Handling program changes
e. Documenting and developing test procedures and data sheets
f. Conducting and documenting commissioning team meetings
g. Monitoring compliance with project requirements by making periodic site visits
h. Verifying completion of items specified in construction checklists

i. Observing the tests
j. To verify the tests and their results
k. Verifying test data reports
l. Verifying the training of operation and maintenance personnel and users according to project requirements
m. Monitoring, diagnosing and documenting problems and deviations related to project requirements and documenting their solutions as well
n. Writing and examining the progress reports of the commissioning process
o. Examining the construction progress reports
p. Verify that new equipment and systems are incorporated into the maintenance management program
q. Notifying all commissioning team members of decisions that cause changes in project needs.

Buildings consist of static systems (e.g., building envelope, building structure etc.) and dynamic systems (e.g., HVAC, lighting etc.). During the commissioning process, all systems and equipment that could have a significant impact on the building's ability to meet energy performance targets shall be included in the study.

The commissioning work will not just be the functional tests and training. It will also be used for the first or early performance evaluation of the project implementation. The objective is to have a first indication of the system behaviour regarding energy performance and compliance with the energy audit objectives in the form of an operational verification. Hence, operational verification of energy efficiency measures shall be clearly stated in the commissioning plan in order to have the preliminary energy performance assessment of the project.

Further definition and details of intended commissioning process is provided in the project's website in the form of "***Commissioning Handbook***[7]***"***. Please refer to this handbook for detailed process overview and intended outcome of the process.

4.b Measurement and Verification (M&V) plans

The M&V plan explains how to verify energy savings and how to adjust the Reference Energy Consumption (or baseline), including methods, calculation details and parameters for baseline adjustment. Since this concerns the construction of a new building to replace an old building, energy savings shall be assessed compared to the energy consumption baseline of the old building. The energy baseline will have to be adjusted for the differences between the old and new buildings in terms of building size and service levels (e.g., size of the building, number of beds, number of patients served). With assistance of the Client for retreiving the required documentation, the Consultant shall complile basic data on the energy consumption of the old building, including:

- Confirmation of the building's heated/cooled area (m2)
- Historical energy consumption over, e.g., the last 3 full calendar years: Electricity consumption and cost, fuel/natural gas consumption and cost
- Average occupancy/number of patients over the same time period
- Heating Degree Days (HDDs) and Coolding Degree Days (CDDs)

The Consultant shall prepare the M&V plans, which will include the method for verification of savings, important measures to be taken, the timing of these activities, the duties and

responsibilities of the parties, and how to ensure quality assurance for this process. Further definition and details of intended M&V process is provided in the project's website in the form of "***M&V Guidelines[8]"***. Please refer to this guideline document for detailed process overview and intended outcome of the process.

Task 4 Deliverables:

4.1 Commissioning plans
4.2 Measurement and Verification (M&V) plans

Task 5*: Social Issues*

The consultant must carry out all the works described below regarding social issues and submit them to the satisfaction of the Client.

Task 5.1. Stakeholder Participation Meeting

The Consultant will organize stakeholder participation meetings in accordance with the SREEPB Project Stakeholder Participation Framework, prepare and present the meeting presentation explaining the Environmental and Social Management Plan, and deliver the meeting record documents (meeting minutes, signature chart, photographs) to the Client within 3 business days.

Task 5.2: Grievance Mechanism (GM) Operation

The Consultant will fulfill all duties defined in the SREEPB Project Grievance Mechanism.

- The consultant will manufacture the complaint boxes approved by the administration and place them in places deemed appropriate by the Client.
- The consultant will check the complaint boxes every 3 business days.
- The consultant will record all complaints/suggestions/wishes/opinions received through complaint boxes or verbally in the complaint log in accordance with the GrievanceMechanism Procedure, resolve the complaints and provide feedback to the complainant.
- The Consultant will share the "Grievance Mechanism Report", including the Grievance Log, with the Client in the first week of each month.

Task 5.3. Trainings

- All personnel working within the scope of the project will participate in the "Gender Equality and Gender-Based Violence, Code of Conduct" Training to be given by the Client.
- The consultant's social expert will participate in the "Grievance Mechanism Procedure" Training to be given by the Client.
- The Consultant's Social Expert will provide "Gender Equality and Gender-Based Violence" Training to the Contractor's Personnel. The training-related records (signature sheet, photographs, training report) will be delivered to the Clent within 3 business days.
- The Consultant's Social Expert will provide "Grievance Mechanism Procedure" Training to the Contractor's Site Manager.

Task 5.4. Social Surveys

The Consultant will prepare survey questions to measure satisfaction regarding stakeholder participation meetings, submit the questions to the Client for approval, implement the surveys, perform data analysis, prepare the survey evaluation report and submit it to the Client.

The Consultant will prepare the "Pre-Reconstruction Work Awareness Survey" questions, submit the questions to the Client for approval, implement the surveys, perform data analysis, prepare the survey evaluation report and submit it to the Client.

Task 5.5. Visual Materials

The Consultant will design posters promoting the Project and the Grievance Mechanism and submit them to the Client for approval; He will be responsible for printing the designs approved by the administration and hanging them in the relevant places.

The Consultant will design brochures promoting the Project and the Grievance Mechanism and submit them to the Client for approval; He will be responsible for printing the designs approved by the Client and hanging them in the relevant places.

Task 5 Deliverables:

5.1 Stakeholder Engagement Meeting minutes, signature sheet, photographs
5.2 Grievance Mechanism Report
5.3 Training Reports, signature chart, photographs
5.4 Stakeholder Participation Meeting Satisfaction Survey Report, Pre-Reconstruction Awareness Survey Report,
5.5 Posters (120 pieces) and Brochures (2500 pieces).

VI. Timeline

The estimated period for this assignment (Phase 1) is two months and is expected to be initiated by May 2024. Tasks will be carried out depending on the schedule of the outputs to be delivered under the separate design consultancy company. A tentative time schedule for the completion of the consultants' services (including the Client's acceptance durations) for the various parts of the Project's Phase 1 is given below:

Table 1. Tentative Timeline and Payment Schedule

	Deliverable/Task	Time after award of contract	Percentage of Lump Sum value to be paid
1	Inception Report	2 weeks	10%
2.a	Energy Audit Evaluation Report and Preliminary Calculation Result Report to determine the EPC class of the building	2 weeks	10%
2.b.	Technical Design Review Reports (including review and concurrence with Technical Design, as well as BOQ and cost estimate)	4 weeks	10%
3.1	Environmental Social Management Plan (ESMP)	4 weeks	10%
3.2	Occupational Health and Safety (OHS) Plan	4 weeks	10%
3.3	The Tender Documents	6 weeks	10%
4.1	Commissioning plans	7 weeks	10%
4.2	Measurement and Verification (M&V) plans	7 weeks	10%
5	Final Report including deliverables of Task 5	9 weeks	20%

VII. Reporting Requirements

Documents need to be in English and Turkish language, unless otherwise specified. Payment will be output based. The deliverables for each task will be submitted to the PIU for acceptance. The consulting firm must obtain concurrence of the Client/PIU on the relevant deliverable before moving to the subsequent tasks. Table 1 summarizes the deliverables and includes an indicative timeline and payment schedule.

All the drawings, reports, plans, specifications, and any other documents produced under this Contract are the property of the Client. Therefore, the Consultants shall also submit all the originals of the drawings and the other documents after the completion of the Contract.

VIII. Facilities provided by the Consultant

The Consultant must ensure that its professional staff has adequate support and equipment. All costs for equipment and administrative and logistic support must be covered by the Consultant and included in the bid price, including:

- All costs arising from the activities of its staff during the contract period, including accommodation, allowances, transportation, insurance, etc.
- All communication costs, including fax, email, telephone, etc.
- All the equipment, instruments, services, and logistical support required for the implementation of the Contract, and any costs incurred during its Preparation of documents and drafts, copying, printing, qualified translation, interpretation, etc.

VIII. Support to be provided by the Client to the consultants

- The Client provides the design phase energy audit and technical drawings developed by a separate design consultant company hired by the Beneficiary.
- If any delay or no response is received from the beneficiary or other third parties during the execution of tasks, the Consultant shall inform the Client in a timely manner by indicating the possible grounds. The Client will accelerate the process or give consent to proceed with the task.

Table 2. Qualification Requirements of the Staff for Phase 1

Key Staff	Total Estimated Staff-Months	Required Skills and Experience
[KE.1]-Civil/Structural Engineer (Team Leader) (1)	2	The Consultant will have a civil and/or structural engineering degree with at least 10 years of experience in base-isolated hospital design and/or reconstruction and at least 5 years management experience. Experience in Türkiye and knowledge of the Turkish Earthquake Code (2018) and other relevant laws/legislations, technical norms, and standards in force in Türkiye, specific experience in Energy Efficiency field and LEED Certification would be asset. The Consultant must be fluent in English. The Consultant will: • Take full responsibility for the consulting team and as per the scope of work, provide overall direction to the consulting team, and coordinate between individual experts; • Carry out extensive consultations with the key stakeholders obtaining suggestions and concurrence with the contents of the plan; • Lead the consultants' work and ensure the Contract's efficacy through detailed review, monitoring, assessment and required improvements to the works of the consultants' team; • Coordinate design reviews and endorsements for structural & energy efficiency design. Design reviews and endorsement will certify that the building's resilience to targeted seismic intensity is ensured and targeted level of energy efficiency is achieved; • Schedule and organize project meetings; • Ensure timely delivery and quality control of the outputs required as per the scope of work.
[KE.2-3] Structural Engineer (2)	4	Civil Engineer with minimum ten (10) years of professional experience (MSc or PhD degree would be an asset) with at least 5 years of specific experience in structural design of base-isolated hospitals or similar buildings. Experience working within Türkiye, and knowledge of the Turkish Earthquake Code (2018) and other relevant laws/legislations, technical norms and standards in force in Türkiye is an advantage.
[K-64] - Seismic Engineer (1)	1	Civil Engineer (Seismology related, MSc. or above) with a minimum of ten (10) years of professional experience, including at least five (5) years' experience in developing site-specific seismic base isolation design. A temporary or permanent "Special Buildings Design Supervision Certificate" in TGUA-1 profession field would be an asset.
[K-75] - Geotechnical Engineer (1)	1	Civil Engineer (Geotechnical Engineer, MSc. or above) with a minimum ten (10) years of professional experience, including at least five (5) years' experience in the design of geotechnical projects of superstructures. Temporary or permanent "Special Buildings Design Supervision Certificate" in TGUA-2 profession field would be an asset.
[KE.46] Mechanical Engineer (1)	2	The Mechanical Engineer shall have Bachelor's degree in Mechanical Engineering (MSc or PhD degree would be an asset) with at least 10 years of professional experience in related field with specific experience in Green Building Certification, Energy Efficiency/Energy Audit / Energy sector, and have at least one of the following certificates: M&V, Energy Manager, Audit Project Certificate
[KE.57] Electrical Engineer (1)	2	The Electrical Engineer shall have Bachelor's degree in Electrical Engineering (MSc or PhD degree would be an asset) with at least 10 years of professional experience in related field with specific experience in Energy Efficiency/Energy Audit/Energy sector, and have at least one of the following certificates: M&V, Energy Manager, Audit Project Certificate

[KE.68] Architect (1)	2	Architect with minimum ten (10) years of professional experience, includes at least five (5) years' specific experience in design of hospitals or similar buildings. Experience in Hospital design with LEED certification would be an asset.
[K-79] Environmental Specialist (1):	1	Environmental Engineer with minimum seven (7) years of professional experience including at least five (5) years' experience in the national environmental legal framework, environmental impact/risk assessment, preparation of environmental assessment tools (ESMP, Environmental and Social Impact Assessment (ESIA), etc.) and knowledge in environmental safeguard policies and ESSs of the World Bank's Environmental and Social Framework (ESF) or other international development institutions, GIIPs.
[K-810] - Social Specialist (1):	1	University degree in sociology or any other related field with minimum five (5) years of professional experience including at least at least three (3) years' experience in social impact/risk assessment, preparation and /or implementation of social assessment tools (ESMF, ESMP, SEP), experience in survey preparation, implementation and reporting, ability to use quantitative data analysis programs
[K-911] - Occupational Health and Safety (OHSE) Expert (1)	1	Occupational Health and Safety Specialist with minimum ten (10) years of professional experience, including at least five (5) years' experience in OHS assessment and management in construction projects financed by international finance institutions or other international donors, preferably the World Bank and with a knowledge in environmental and social safeguard policies and ESSs of the World Bank's ESF or other international development institutions, having A or B Class Occupational Safety Expert certificate received from the Directorate General of Occupational Health and Safety or equivalent international certificate.

PHASE 2: CONSULTANCY SERVICES FOR CONSTRUCTION SUPERVISION OF THE SURGERY HOSPITAL IN ÇAPA CAMPUS OF ISTANBUL UNIVERSITY FACULTY OF MEDICINE

III. Scope of Services

The scope of the services under the Time Base part of the Contract is for Construction Supervision of an earthquake resistant hospital. The new building is a surgery hospital building, which should remain operational during an earthquake thus any specific supervision tasks resulting from this function shall be the Consultants responsibility for the supervision of construction works. The seismic design targets to cover the "Operational Building" performance level in DBE (Design Basis Earthquake) and "Life Safety" performance level in MCE (Maximum Credible Earthquake) according to ASCE/SEI 41-06. Thus, the structural system of the hospital is reinforced concrete and the design covers seismic base isolators for an earthquake resistant hospital complex. The hospital will be equipped with high level of electromechanical infrastructure like building automation and energy saving features.

The Consultant shall be responsible to carry out all the duties attributed to the "Engineer" within the FIDIC "Conditions of Contract". The Supervision Consultant/Engineer is expected to ensure timely implementation of works with the required quality and within the contractual cost of the relevant civil work contract being supervised. Consultant's tasks include:

III.1. General Obligations and Tasks of the Consultant

(a) The Consultant staff shall include suitably qualified engineers and other professionals who are competent to carry out the duties described within this document to provide site supervision of the works and engineering services both during the Construction period and during the Defects Liability / Maintenance period.

(b) The Consultant shall be responsible for the approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar acts as defined in the "Construction Contract" both during the construction period and for any works that have to be completed during the Maintenance/Defects Liability Period. The Consultant shall approve materials and application methodologies submitted by Contractor according to national and international standards and the "Construction Contract".

(c) The Consultant is obliged to check/review the design of the building, Base Isolation design, and the construction documents to ensure that they are adequate for obtaining building permits, competitive construction bids, and for executing the work.

(d) Since other Consultants in other sites may also supervise the similar construction works, the Consultant shall co-operate with the other Consultants and join the meetings whenever required by the Client.

(e) The Consultant shall review the documents which were prepared by the Contractor such as Waste Management Plan, the Pollution Prevention Plan, Water and Wastewater Management Plan, OHS Plan etc. and submit to PIU for approval before the commence of construction activities.

(f) The Consultant shall take necessary measures for environmental and safety aspects. In this context the most recent Turkish environmental and safety regulations are required to be taken into consideration particularly during the supervision of the construction works. Within this scope, Consultant shall also be responsible for the supervision of the Contractors‟ environmental management practices (waste management, noise, etc.) and report to the Client in his monthly progress reports. The details of the Environmental Management and the responsibilities of the "Engineer" shall also be detailed in the Contractor's contract. Consultant shall have the responsibility for relevant supervision and instruction of the applications to the Contractor.

(f) The Consultant shall carry out all the Services with all due diligence, care and in timely manner so as not to cause any delay. It is deemed that the Consultant familiarized himself with the nature of Project and is expected to take all sorts of precautions during the performance of Services to get the works completed by the Contractor on time.

(g) In any case, all the correspondences received from the Contractor shall be reviewed evaluated and responded within maximum one week. Any claim from the Contractor under the Construction Contract shall be evaluated by the Consultants and necessary recommendations shall be made the latest within one week as well.

(h) The Consultants shall fully inform the Client about the cost and time impact and any other consequences of proposals (such as revisions, recommendations, etc.). The Client shall not be responsible for the consequences of the issues, which the Client is not informed in advance.

(i) The Consultant shall check the Contractor's valuations for payment on account and issue certificates according to the Conditions of Contract used and shall also be responsible for agreeing with the Client on each payment certificates in payable amount. The actual procedure and presentation of the certificates, supporting documents, etc. shall be discussed and agreed with the Client.

(j) Some alterations in any of the Construction Drawings or Specifications might be necessary during the progress of the works because of new requirements or inadequate and improper design. The Consultant shall assist the Client for the coordination of the Designer or other relevant third parties with the Contractor for such revisions. The Consultant shall review and issue such alterations to the Contractor, in a timely manner, supported by the necessary calculations, details and, time and cost implications. The Consultant shall state whether the alterations will cause any delay in the work program, and therefore the Contractor to be entitled any time extension or not, supported by necessary documentation.

(k) The Consultant shall review and approve Contractor's and manufacturer's drawings and where appropriate incorporate these drawings into the overall design and review alterations which might be requested by the Contractors during the course of Works.

III.1.1. For Environmental & Social issues;

The Consultant shall ensure the construction progress is in compliance with the workplan, building access plan, also the E&S instruments: ESMP, OHS Plan, etc. and restrictions (for access to users during the construction phase).

(a) Ensure that all occupational health & safety measures are respected by the construction company in compliance with the mitigation, management, monitoring and reporting requirements of relevant official authorities and the World Bank

(b) The Consultant shall take necessary measures for environmental, social and occupational health and safety (OHS) aspects. In this context, alongside with the Occupational Health and Safety Plan (OHS Plan), Environmental and Social Management Plan (ESMP) prepared based on the ESMF, the Environmental and Social Standards (ESSs) of the World Bank's Environmental and Social Framework and the World Bank Group (WBG) General Environment, Health and Safety (EHS) Guidelines, and Good International Industrial Practices (GIIPs), the most recent Turkish environmental, OHS and social legislative requirements are required to be followed particularly during the supervision of the construction works.

(c) The Consultant shall supervise the Contractor on behalf of the Client for performing and implementation of all Occupational Health and Safety activities in accordance with the enforcement of the related Turkish Laws and legislations, and measures specified in the ESMP. In this context, the consultant duties and responsibilities shall include, but not limited to :

(d) Conduct regular visits to all construction sites to check the contractor's OHS documents and compliance, provide on-the job trainings, ensure compliance of the works with OHS practices and regulations, and issue non-compliance notices to the contractor and report the same to the Client.

(e) Ensure that the workers are provided OHS training and have complete health records and personal files in accordance with pertinent legal requirements, and avoid access of the workers to work site if there any non-compliance

(f) Make available an OHS expert in high-risk worksites (e.g.: high elevations scaffolds, confined space, crane works, digging works, etc.).

(g) Check and approve conformity of equipment/ machines on worksites with national standard, and avoid their use in case of non-compliances

(h) Promptly notify the Client within 48 hours of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers including health and safety serious injuries and road accidents. Provide sufficient detail regarding the incident or accident, indicating immediate measures taken or that are planned to be taken to address it, and any information provided by any contractor

(i) Participate in the contractor's regular OHS meetings and provide input for needed improvements.

(j) Provide the contractor with a copy of key OHS documents (Law 6331 on OHS Code, 5510 Social Security and General Health Insurance Law, 4857 Labour Code, Worldbank ESSs and also IFC Environmental, Health and Safety (EHS) Guidelines, OHS Plan) and check the compliance.

(k) The Consultant shall conduct periodic checks whether lifting vehicles, boiler and tanks and control scaffolding, welding tubes, small hand tools, etc. are in compliance with the standards (e.g. CE, TSE, BS). The Consultant shall control and approve method statements, which will be prepared by contractor before each work activity starts. If needed, consultant will help contractor to prepare the documents.

(l) Consultant shall conduct safety visits to site periodically with project manager, construction manager and OHS manager

(m) In case of urgent, imminent and life-threatening non-conformities, the Consultant suspends the construction of the relevant work until the nonconformity related to that work is rectified. In this case, the Consultant promptly informs the Client about the status.

(n) The Consultant shall ensure that the Contractor's activities are following the ESMP. The Consultant shall supervise the Contractor's implementation of environmental and social mitigation measures as identified in the ESMP. The Consultant should ensure Contractor that the Project's Grievance Mechanism set forth by Client is utilized and made available, accessible and visible in Project site.

(o) The Consultant shall ensure that the Contractor records any grievance received by local community or worker and report it in monthly ESMP monitoring reports to PIU. The Consultant shall provide feedback and give notice to the Client regarding environmental and social issues at sites.

(p) The Consultant shall be responsible for assisting the Client with supervision of the implementation of environmental and social aspects of the project as part of its overall supervision responsibilities, in accordance with ESMP. If the Contractor is found to be non-compliant with the ESMP requirements, the Consultant shall file a non-conformity report and any relevant payment orders should be put on hold, until non-compliance issues are remedied satisfactorily or issue a fine in consultation with Client.

(q) The Consultant shall attend workshops to be organized by the Client that may be related to the project implementation, environmental and social safeguards, occupational health and safety, communication and public information, and grievance mechanism.

(r) The Consultant shall ensure that brochures, posters, grievance forms and other visual communication products to be approved by the Client are available and properly displayed at construction sites from beginning to end of the construction work.

(s) The Consultant will prepare survey questions for the ""Post-Retrofitting Survey"", submit the questions for the Client's approval, conduct the surveys, perform data analysis and prepare a survey evaluation report in Turkish and English for submission to the Client.

(t) The Consultant's Social Specialist will provide the "Gender Equality and Gender-Based Violence" Training to the Contractor's personnel. Records of the training (sign-in sheet, photographs, training report) will be submitted to the Client within three (3) business days.

(u) The Consultant's Social Specialist will provide the "Grievance Mechanism Procedure" Training to the Contractor's Site Manager. The Consultant is obliged to notify the Client on a weekly basis of all comments/suggestions/complaints received in the grievance boxes or verbally communicated to the staff on site.

(v) The Consultant shall ensure that the Contractor deliver the hoarding panels and install them around the construction site appropriately before construction work starts.

(w) The Consultant shall be in contact with the Client in responding to inquiries and grievances received at construction sites in timely manner, provide including but not limited to logistical and data collection support to communication activities to be carried out at such as informative meetings and trainings in the project site before construction work starts and contribute to community awareness raising operations.

(x) The Consultant shall ensure that all activities related to the Consultant's tasks are carried out according to best environmental, social and OHS practices to avoid any associated impacts. The Consultant shall monitor/assess Contractors' activities in compliance with the site-specific ESMP (including environmental, social, occupational health and safety, community safety, received grievances, if any, etc.), include ESMP issues and grievances (if any), in the monthly progress reports, and provide feedback and give notice to the MoEUCC.

(y) The details of the Environmental and Social Management and the responsibilities of the "Engineer/Project Manager" shall also be detailed in the Contractor's contract. Consultant shall have the responsibility for relevant supervision and instruction of the applications to the Contractor.

(z) The consultant will assist PIU in the Stakeholder Consultation Meetings for SREEPB Project that will be led by PIU. The consultation meetings will be held with participation of PIU representative(s). Presentation material(s) including relevant content of per sub-project to be shared during the consultation meetings shall be prepared by the consultant and the presentation shall be delivered by the relevant personnel of the consultant. Content of each presentation for per sub-project is subject to review and approval of the PIU.

III.1.2. Tests, Reports

(a) The Consultant shall approve the appropriate Material Testing Laboratory for all tests required that will be mentioned in Contractors‟ Technical Specification and shall discuss the various testing requirements stipulated in its documents with personnel of the laboratory. The Consultant shall give at least 24 hours prior notice to the laboratory for all tests which are required to be undertaken. All samples shall be properly labeled in accordance with the requirements of the laboratory and the Consultant shall be responsible for the delivery of all samples for testing and for the collection of all test reports.

(b) The involvement of the approved Materials Testing Laboratory is limited to the actual performance of the tests in accordance with the Consultant‟s laid down procedures and/or the specified standards stated in the Contract. The Consultant shall be responsible for interpreting the

results received, instructing the repetition or the carrying out of additional tests and taking whatever action necessary to ensure compliance with the contract requirements. The Laboratory staff may from time to time offer advice to the Consultant on any matter within the scope of their competence but it is up to the Consultant whether to accept or reject such advice or suggestion. If any advice or suggestion is accepted by the Consultants, they shall become completely responsible for it as if the advice or suggestion has been of its own initiative.
(c) The Consultant shall stipulate the criteria, the planning and the procedure for all tests and inspections necessary for the materials, equipment, plant and workmanship and the commissioning of the Works and shall provide supervision and inspection for these tests. The Consultant shall compile a record of all such tests and compare the results with the specifications, standards or with the performance criteria that has been guaranteed by the suppliers or contractors.

(d) Where necessary, tests and inspections may be carried out at the place of manufacture during fabrication and/or prior to shipment. The Consultants shall inform the Client well in advance about any such performance test foreseen, to enable the Client to participate in these tests if he so wishes.

(e) The Consultant shall be responsible for the Contractor to achieve the minimum target performance levels of the equipments as defined in the "Construction Contract" or specifications of the related suppliers including the Medical Equipments until the Final Acceptance.

III.1.3 Disputes The Consultant shall assist in the setting of all disputes or differences, which may arise between the Client and the Contractors, in a timely manner. In the case of litigation and arbitration the Consultant shall assist the Client in the preparation of the documents needed by the Client.

III.2 Specific Tasks of the Consultant

III.2.1 Initiation of works
(a) The Consultant shall also sign the documents to be submitted for construction permit and assist the Client for the Construction Permit if not received yet.
(b) The Consultant shall be responsible to check all the information required for accurate setting-out of the works and obtain additional information from the related authorities before the Contractor set out the Works and supervise all the setting- out studies by the Contractor. The boundaries of the available construction site shall also be compared with the project layout.

III.2.2 Supervision during the Construction Period
(a) The Consultant shall supervise and oversee all aspects of the construction and installation of the various components of the works and engineering services to ensure strict compliance with the drawings and contract documents.
(b) It is the duty of the Consultant to interpret the drawings and specifications and to consult with the Contractor as required to ensure compliance with the Contract Documents and the construction/installation programme.
(c) The Contractor may execute some works especially placement of concrete in night hours rather than daily hours because of traffic or other reasons like being not allowed by related authorities. In that case, Contractor will inform the Consultant 24 hours before the related work, Consultant

will arrange his staff employment according to this condition without any cost to the Client and the Contractor.

(d) The Consultant shall arrange weekly and monthly meetings with Contractor, inform the Client about progress of the work and activities, attend any meetings reasonably convened by the Client and provide any information or evidence reasonably required by the Client at any public meetings or inquiries that might be held in connection with the Project.

(e) Preparation and submission of as-built drawings, shop drawings, operating and maintenance manuals for all items of equipment and plants incorporated in or associated with the works, shall be controlled and followed by the Consultant in timely manner. As-built drawings, operating and maintenance manuals should be obtained from the Contractor during the issuing of taking-over certificate. Otherwise, the Client might ask the Consultant for the conversion of the approved shop drawings into as-built drawings if Client considers that the Consultant is not strictly following up the work. The Consultant shall also prepare and submit to the Client‟s approval a report giving all information about the "as-built-conditions" including (but not limited to) calculations, drawings, specifications, test reports and final cost analysis.

(f) The main medical equipments will be supplied by the İstanbul University Faculty of Medicine and the related suppliers of these equipments will be responsible for the installation, testing and commissioning of these equipments as well as the provision of the manuals. The relevant equipment will be procured during the construction period and the exact specifications can be only provided prior to the start of the finishing works. The relevant general technical specifications (the size and arrangement of the rooms, connections, outlets, thermal loads, cable channels, X-ray shielding, etc.) are already covered in the designs but the detailed specifications for the final execution will be provided by the equipment providers through the Consultant prior to the start of the finishing works.

(g) The coordination of the works between the Contractor and the equipments suppliers or any relevant third party shall be under the Consultants responsibility. The Consultant shall ensure the adequacy and completeness of the planning of the interfaces. The Consultant shall ensure that all aspects for a timely and cost efficient execution are adequately considered and the Contractor provides proper assistance to the equipment suppliers.

The Consultant will be responsible for the documentation, testing, preparation of / issuing the Acceptance Certificate for these equipments. The Consultant will also be responsible for the;

i) supervision of the large equipment installation that requires the adaptation of the location and/or technical installations (e.g. X-Ray, CT, MRT, sterilization, kitchens, etc.),

ii) fixed / permanently installed equipment that needs to be considered in the designs and/or is permanently connected to the installations (e.g. surgical lights, ceiling or wall supply units, laboratory equipment, etc.),

After completion of the works and issuing of the Acceptance Certificate, the Consultant shall check the report which is to be prepared by the Contractor and submit to the Client. This report shall give all information about the equipments installed and tested including calculations, drawings, specifications, test reports and etc.

The Consultant shall submit this report together with operating and maintenance manuals for all items of equipments incorporated in the building as soon as possible after the Acceptance Certificates are issued in any case within 28 days of the date of these Certificates. These reports

and maintenance and operating manuals shall be subject to the Client‟s approval. The format and number of copies shall be as stated in Section 6.

III.3 Supervision During The Commissioning, Defects Liability And Maintenance Period

(a) The Consultant shall continue to be responsible for the supervision and inspection of the construction and completion of the Works during the Defects Liability Period as defined in the construction contracts. The level of supervision shall be appropriate to the scale of the works being carried out. These inspections and supervision are to ensure that works, agreed to be carried out during the Defects Liability Period, are properly carried out and have been completed and that any failure of any part of the Works has been rectified. If any defect is discovered, during this period, the Consultant shall promptly investigate the reason for it, report to the Client and take required actions to rectify the defect.

(b) A report of these inspections shall be submitted to the Client, which shall include all details of any defects, faults, accidents or breakdowns, which have occurred together with the estimated costs of repair and the time scales within which they will be completed. Moreover, the Consultant shall submit quarterly report summarizing all the activities during subject quarter of Defects Liability. A final report shall be submitted at the end of the Defects Liability Period giving full details of all works carried out during that period. This report shall be submitted by the Consultant to the Client at least 30 days prior to the Consultant‟s issuing Defects Liability Certificate for the completed Works. The Consultant will provide minimum number of technical staff acceptable to the Client during the Defects Liability Period. Defects are expected to be minimum for a competent Consultant Firm during defects liability period. Therefore consultant should consider minimum number of staff assigned in DLP consisting of technicians.

IV.**TIME SCHEDULE**

During the supervision periods, it should be noted by the Consultant that any schedule, report, specification and other document submitted to the Client for approval will be reviewed by the Client and approved or returned for revision and/or resubmission in 15 calendar days. The Consultant shall submit all the documents in a timely manner to complete the services on time without any delay. Time schedule for the completion of the consultants‟ services for the various parts of the work as mentioned below shall be submitted to the Client. All other activities shall be completed within 30 months (including the Defects Liability Period) from the consultancy contract signing date.

Table 1. Tentative timeline

Months	1	2	3	….	16	17	18	19	….	30
Construction Supervision										
Completion Works (M&V, Commissioning, Acceptance, DLP etc.)										

* Months are from the start of assignment

Supervision of Construction and Engineering Services and Defects Liability

Under normal conditions, the scheduled construction period is 18 (eighteen) months and the defects liability period is 12 (twelve) months for the Construction Contract.

V. CHANGE IN THE SCOPE OF CONSULTANT'S SERVICES

- The Construction commencement dates of Work may vary due to the unexpected reasons. The Consultant shall wait for the finalization of the tender evaluation and start up of the construction works and shall not request any payment or compensation.

- If the Construction Contract is not tendered or is not awarded by the Client, the Client may decide:

i. to cancel the remaining services of the Consultant The remaining payments will not be done to the Consultants and the Consultants shall not request any payment or compensation for the cancelled parts of the Services.

ii. in agreement with the Consultants; to suspend the remaining services of the Consultants until awarding of Construction Contract. In such case the Consultants shall not be paid by the Client during the period between suspension and start up date of the Construction Contract, and the Consultants shall not request any payment for compensation for the duration mentioned above.

VI. Submission of the Reports, Drawings and Documents

Monthly Reports

The Consultant shall prepare and submit to the Client each calendar month a report satisfactory to the Client, including progress charts and photographs in color giving all information regarding the progress of the Works, actual extent and nature of the Works completed as well as details of any delay in the works, reason and remedial of the delay, any other problems relating to the Works and substantiating documentation if required. The Consultants shall also clearly indicate in the report the critical path of works, and whether the delay (if any) of any part of the Works will cause any delay in the completion of the whole Works.

The report shall include the physical as well as financial progress in the form of percentages of the Work items completed and planned, and also the actual and planned cash-flows for each work item as of the reporting period prepared in the project planning tools (such as Primavera, Asta, etc) accepted by the Client/PIU-.

The report shall also include records of materials, equipment and plant tested with copies of the test results and, statistical evaluation of the test results in table or graphical form. Action taken with regard to poor results shall be stated.

The report shall give a detailed review of the Works to be performed during the following month and a general listing of the works to be performed during the following two months.

The report shall also give information about personnel employment status of the Consultants.

The report shall also include environmental management practices followed for mitigation of environmental impacts of the works.

The report shall be submitted to the Client by the tenth day of following month. Any comment by the Client on the report shall be reviewed and the report shall be modified and re-submitted to the Client within a week.

Due to the urgent nature of the project and short construction time, the Consultants shall also prepare a report in table form showing summary of cumulative progress in main work activities on weekly basis. The report shall be submitted to the Client in an acceptable format on Monday of each week via electronic mail and as hard copy. The weekly report shall also be e-mailed to Client.

In addition, the Consultants shall record views from at least 5 different points for the construction site, on weekly base, showing the progress on the site with dates and submit to the Client.

The deadlines for the submission of the reports (including Client's review and approval durations) are given below.

Table.2: Table of Reports

Task	**Reports**		**Submission Deadline**
1	1.1	Initial Inspection Report	2 weeks after Works Contract signing
	1.2	Weekly Site Pictures	Every Monday
	1.3	Monthly Progress Reports	Together with the submission of the interim payment certificate for each month
	1.4	Other reports upon request	As Required
2	2.1	Commissioning Report	With the closure of all the items in the problem registration list (issues log)
	2.2	Final Completion Reports	2 months after the issuance of Certificate of Completion
	2.3	Visual Presentation Materials	
	2.4	DLP Quarterly Reports	Quarterly during DLP
	2.5	DNP Final Report	by the time of the expiration of the DLP
3	3.1	M&V Report	one year after the construction works are completed

All deliverables need to be prepared in Turkish with English translations. Only one selected M&V Report and executive summary sections of every deliverable will be translated into English
All deliverables will be submitted as (i) one hard copy (signed and stamped), (ii) soft copy (on a SSD (Solid State Drive)), and (iii) uploaded to an online platform, which the Client addresses.
The metric system of weights and measures shall be used. The drawings shall be submitted in the format, labelling, grouping and details as required by the Client. The plot size, parcel, map sheet for the building shall be listed and integrated into the drawings and other required documents.

Digital formats shall be as follows:

- Format of Reports/Documents : MS Office Word/Excel/PowerPoint & PDF
- Format of Drawings : AutoCAD 2006 (or newer) & PDF

Printing formats shall be as follows;

- Format of Reports/Documents : A4 or A3 including where appropriate drawings could be reduced to A3 size
- Format of Drawings : A1 size (unless otherwise required or agreed)
- Scale of Drawings : To be agreed with the Client.
- Format of Visual Presentation Materials
  - Format of Posters : A0, A1 and A2 size /min. 300dpi
  - Format of Others : A4 size/min. 300dpi

Those of the documents and reports not mentioned above but either specified or implied in the contract related to the Construction Supervision Stage and Completion and Defects Liability Period shall be submitted in 3 copies in Turkish and English languages each.

In relation to the ongoing stages of the Consultants Services, the submission requirements given above should be allowed by the Consultants as a guideline for the extent and type of documentation that will be required by the Client during the performance of the Services. However, the Consultants shall allow in its fee for the submission of all reports, drawings, documents, etc. either specifically requested in these Terms of Reference or those that may be implied there from and the Contractors‟ contracts. The Client may however vary such requirements during the course of the Services to be performed.

Should additional copies be required extra over to those stated above or to be implied from these Terms of Reference, these shall be supplied by the Consultant(s) at the cost of reproduction of such documents, reports or drawing. Additionally, after finalizing the reports and “as built” drawings, these shall be submitted to the Client on one (1) set of CD and in the software format acceptable by the Client. Each copy shall be durably bound in a volume or volumes depending on bulk, and the transparent copies shall have a suitable protective cover/box. All copies shall be labeled in accordance with the needs of the Client.
As indicated in the General Conditions of Contract all the drawings, reports, plans, specifications, and any other documents produced under this Contract are the property of the Client. Upon the completion of Works, the Consultants shall submit all the original copies of correspondences, documents, test results, drawings etc., relating to the Services and Works, to the Client together with indices in acceptable files and forms by the Client.

VII. Facilities provided by the consultant

Supervision of the works and engineering services both during the construction and defects notification period including M&V works and ensure that the works are executed in accordance with recent regulations and rules.

All costs for equipment and administrative and logistic support must be covered by the Consultant and included in the proposal price, including:

- All costs arising from the activities of its staff during the contract period, including accommodation (In addition to what is foreseen under VIII below), allowances, transportation, insurance, etc.
- Automotive, equipment, equipment for field and lab tests, office supplies, hardware and software (software for modeling and static/dynamic analysis of critical structures), etc.
- All communication costs, including fax, email, telephone, etc.
- All the equipment, instruments, services and logistical support required for the implementation of the contract, and any costs incurred during its preparation of documents and drafts, copying, printing, qualified translation, interpretation etc.
- Technical equipment at the monitoring site;
- The Consultants will be fully responsible for providing their central site office until the contractors are in place to make site offices available. The central office shall be furnished and equipped by the Consultants, whereas the site offices shall be furnished by the Contractor. All sort of running expenses for the site offices except water and electricity (to be provided by the Contractor) shall be under the Consultant's responsibility.
- The Consultant shall not be required to deliver to the Client, any equipment and materials provided by the reimbursable expenses and which have been used for the Services to the Client.

VIII. Support to be Provided By the Client to the Consultants

- The inputs (contract drawings, Bill of Quantities, tender documents, etc.) shall be provided free of charge by the Client to the Consultants. Consultant shall return all such drawings and documents received to the Client upon the completion of services.
- All local transport for the Consultants staff including the site supervisory staff shall be provided by the consultant and shall be included in the fee proposal submitted.
- The Works Contractors' bidding documents are already arranged to incorporate clauses to provide temporary office facilities to the Consultants depending on the size and location of the construction sites, the size and number of rooms (generally the site office has approximately 80 m2 area and includes 1 meeting room, 3 room, 1 WC and 1 Kitchen) shall be jointly determined by the Client and the Consultant considering the needs of the Client as well. However, these will be constructed by the Contractors and will take some time.
- Subject to availability to Client the following items shall be provided free of charge by the Client to the Consultants if available: The existing maps, topographic plans, development plans, cadastral data, layouts.
- In addition, the Client shall, where possible, assist the Consultants in obtaining approvals, permissions from the Municipalities and other State Authorities in respect of the Services to be performed.
- The Consultants shall return to the Client all documents received from the Client following the completion of the Services to be performed.

Table 3: Key staff's qualifications shall include but not limited to the following:

Position (Min. *Number of Staff Required*)	Required Experience
[K-1] - Project Manager (1):	The Project Manager will be available during the whole contract period and be responsible for day-to-day management of the project and coordination of the project activities between PIU, the Consultancy team, the Works Contractors, Supplier(s), and other project stakeholders. Civil Engineer with minimum fifteen (15) years of professional experience includes at least eight (8) years' experience project management supervision experience in at least two base isolated hospital construction projects
[K-2] – Site Manager/Chief Civil Engineer (1):	Chief Civil Engineer will be available during the whole contract period, and be responsible for assisting the team leader, day-to-day technical /engineering management of the project and coordination of the project activities between stakeholders. Civil Engineer with minimum fifteen (15) years of general experience includes at least eight (8) years' experience in construction project/contract management of base-isolated hospitals or similar buildings.
[K-3/4] – Site Engineer/Civil Engineer (2):	Civil Engineer with minimum eight (8) years of general experience includes at least three (3) years' experience in construction project/contract management of similar buildings.
[K-5] - Cost and Planning Engineer (1):	University degree in engineering with minimum five (5) years of professional experience, includes at least two (2) years' experience in preparation of progress payments, claim management, time schedules and reporting of construction projects that include similar buildings
[K-6] - Procurement Specialist (1)	University degree with minimum five (5) years of professional experience, includes at least two (2) years' experience in claim management and contract management of construction projects that include similar buildings preferably under World Bank-financed Projects.
[K-7] Chief Mechanical Engineer (1)	Mechanical Engineer having min. twelve (12) years of professional experience including at least five (5) years of experience in HVAC design & details of similar buildings
[K-8] - Mechanical Engineer (1):	Mechanical Engineer having min eight (8) years of professional experience including at least three (3) years of experience in HVAC design & details of similar buildings
[K-9] Chief Electrical Engineer (1)	Electrical Engineer having min. twelve (12) years of professional experience including at least five (5) years of experience in electrical and, telecommunication design in similar buildings.
[K-10] - Electrical Engineer (1):	Electrical Engineer having min. eight (8) years of professional experience including three (3) years of experience in electrical and, telecommunication design in similar buildings.
[K-11] - Structural Engineer (1):	Civil Engineer with minimum ten (10) years of professional experience, includes at least five (5) years' experience in structural design of similar buildings.
[K-12] – Chief Architect (1):	Architect with minimum twelve (12) years of professional experience including at least five (5) years' supervision experience in construction projects of similar buildings.
[K-13] - Architect (1):	Architect with minimum eight (8) years of professional experience including at least three (3) years' supervision experience in construction projects of similar buildings.
[K-14] – Landscape Architect (1) (Part time):	Landscape architect with minimum five (5) years of professional experience

[K-15] – Topog. Engineer (1) (Part time):	Topographical/survey engineer with min. eight (8) years of professional experience including at least three (3) years' supervision experience in construction projects.
[K-16] - QA/QC Engineer (1):	University degree in engineering with minimum five (5) years of professional experience including at least two (2) years' quality assurance and control experience in construction projects of similar buildings.
[K-17] - Occupational Health and Safety (OHSE) Expert (1)	Occupational Health and Safety Expert with minimum ten (10) years of professional experience, including at least five (5) years' experience in OHS assessment and management in construction projects financed by international finance institutions or other international donors, preferably the World Bank and with a knowledge in environmental and social safeguard policies and ESSs of the World Bank's Environmental and Social Framework (ESF) or other international development institutions, having A or B Class Occupational Safety Expert certificate received from the Directorate General of Occupational Health and Safety or equivalent international certificate.
[K-18] - Environmental Specialist (1):	Environmental Engineer with minimum seven (7) years of professional experience including at least five (5) years' experience in the national environmental legal framework, environmental impact/risk assessment, implementation of environmental and social assessment tools ESMP, Environmental and Social Impact Assessment (ESIA)), etc. and knowledge in environmental and social safeguard policies and ESSs of the World Bank's ESF or other international development institutions.
[K-19] - Social Specialist (1) (Part time):	University degree in sociology or any other related field with minimum five (5) years of professional experience including at least three (3) years' experience in gender studies, using SPSS Statistics Program actively, to have conducted at least 1 study/research on quantitative data analysis and reporting
[K-20] Bio-medical Expert (1) (Part time)	University degree in bio-medical engineering with min. 8 years of professional experience including at least three (3) years of experience in supervision of hospital constructions and medical equipment.
[K-21] - Measurement & Verification Expert (1)	Certified Measurement and Verification Expert having five (5) years of professional experience in similar buildings
[N-…] - Technical Support Staff Requirement	Support (Non-Key) staff for the technical services with minimum three (3) years of professional experience shall be proposed additionally as required (architects, surveyors, mechanical and electrical technicians/junior engineers, OHS personnel, etc.)
[N-…] - Administrative Support Staff Requirement	Support (Non-key) staff for the administrative services shall be proposed additionally as required (surveyors, clerks, drivers, secretary etc.)

IX-Team Composition & Qualification Requirements for The Key Staff

- The total key staff input estimate for the supervision and defect liability period is 400 staff months.
- The working language of the project is English. All the team members assigned by the Consultant must possess proficiency in English language. Day-to-day communication language will be Turkish or English at the field level to ensure smooth communication among all participants, direct and indirect of the Project.

- All key staff and support staff shall be mobilized immediately after the Construction Contract signature in way to evaluate the design and make the necessary adjustment before the works commence.

All expatriate staff who will work in Türkiye should obtain a work permit and all who are resident for more than 90 days should obtain a non-resident visa. The Consultant will obtain all required permits, visas for all expatriate staff at his own cost. Furthermore, the Consultant will be responsible to ensure that all proposed personnel are eligible to obtain such permits and visas. The information related to visas can be obtained from the embassies and consulates of Türkiye. The Client will assist the Consultant with the issue of work permits. The Consultant is required to obtain all the necessary permits, approvals, payment of all fees and contributions, as well as all the other elements necessary for the work of his professional staff, who is engaged at his own expense for the performance of this Contract.

ANNEX 1. VISUALS OF THE PRELIMINARY DESIGN OF HOSPITAL BUILDING

İstanbul Üniversitesi
İSTANBUL TIP FAKÜLTESİ

128 Yataklı Cerrahi Hastanesi

128 Yataklı Cerrahi Hastanesi

(İzolatörlü Yapı)

Yataklı Servis
-Katta 24 Oda / 34 Yatak
-Toplam 34 * 3 /102 Yatak

Yataklı Servis
-26 YBB Yatağı

Ameliyathane
-13 + 1 Sezeryan

Doğumhane
-2 Adet + Yan Birim

Görüntüleme
-1 MRI
-1 CT
-1XRAY

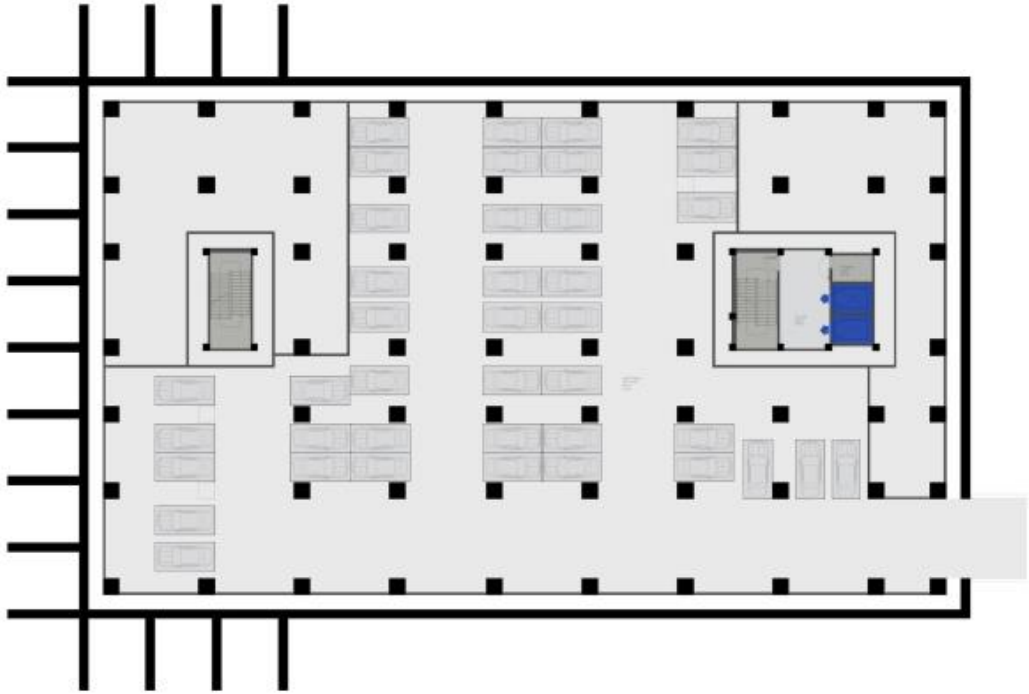
Endoskopi
-2 Adet Endoskopi İşlem Odası

Otopark
-40 Araç

Bina İzolatör Sayısı: 40 Adet

İSTANBUL ÜNİVERSİTESİ CERRAHİ HASTANESİ		
KAT ADI	Alan	
3.Bodrum Kat	2.870,0	Otopark
2.Bodrum Kat	2.870,0	Lojistik
1.Bodrum Kat	2.870,0	OPR
Alt Zemin Kat	2.870,0	YBB/Görüntüleme
Zemin Kat	2.100,0	Giriş Holü/Destek Birimleri
1.Kat	2.200,0	Yatak Katı
2.Kat	2.200,0	Yatak Katı
3.Kat	2.200,0	Yatak Katı
Tesisat Katı	1.150,0	
Toplam	21.330,0	

Not: Uygulama projesi safhasında yönetmeliklere ve idarenin ihtiyaçlarına göre programda değişiklikler yapılabilir.



Ziyaretçi Asansörü

Otopark

3. BODRUM KAT PLANI
2.870 m²

Kirli Toplama Asansörü
Temiz Sevk Asansörü
İç Hasta Asansörü
Ziyaretçi Asansörü

Ameliyathane

1. BODRUM KAT PLANI
2.870 m²

ALT ZEMİN KAT PLANI
2.870 m²

128 Yataklı Cerrahi Hastanesi

ZEMİN KAT PLANI
2.100 m²

İstanbul Üniversitesi
İSTANBUL TIP FAKÜLTESİ

128 Yataklı Cerrahi Hastanesi

Kirli Toplama Asansörü
Temiz Sevk Asansörü
İç Hasta Asansörü
Ziyaretçi Asansörü

Hasta Yatak Odaları

1.2.3. KAT PLANI
2.200 m²
Toplam: 6.600 m²